EN and ENCSeries Hardware User Manual

ENC 2bays NVR

ENC16 4bay NVR

16 Channel 2U case NVR

Table of Contents

Welcome

Thank you for purchasing our network video recorder!

This quick start guide is designed to be a reference tool for your system.

Please open the accessory bag to check the items one by one in accordance with the list below. Contact your local retailer if something is missing or damaged in the bag.

Important Safeguards and Warnings

1．Electrical safety

All installation and operation here should conform to your local electrical safety codes.
We assume no liability or responsibility for all the fires or electrical shock caused by improper handling or installation.

2．Transportation security

Heavy stress, violent vibration or water splash are not allowed during transportation, storage and installation.

3．Installation

Keep upwards. Handle with care.
Do not apply power to the NVR before completing installation.
Do not place objects on the NVR

4．Qualified engineers needed

All the examination and repair work should be done by the qualified service engineers.
We are not liable for any problems caused by unauthorized modifications or attempted repair.

5．Environment

The NVR should be installed in a cool, dry place away from direct sunlight, inflammable, explosive substances and etc.
This series product shall be transported, storage and used in the environment ranging from 0℃ to 55 ℃

6.　Accessories

Be sure to use all the accessories recommended by manufacturer.
Before installation, please open the package and check all the components are included.
Contact your local retailer ASAP if something is broken in your package.

7. Lithium battery

Improper battery use may result in fire, explosion, or personal injury!
When replace the battery, please make sure you are using the same model!

Before your operation please read the following instructions carefully.
- **Installation environment**
  - ✧ Keep away from extreme hot places and sources；
  - ✧ Avoid direct sunlight；
  - ✧ Keep away from extreme humid places；
  - ✧ Avoid violent vibration；
  - ✧ Do not put other devices on the top of the NVR；

✧ Be installed in well ventilated place; do not block the vent.

● **Accessories**

Check the following accessories after opening the box：

● **Please refer to the packing list in the box ***

Component Name	ENC Series	EN Series
NVR	■	■
7-pin SATA cable	■	■
Power cable	■	■
Network cable	■	■
Remote control	■	■
Black optical mouse	■	■
Power adapter	■	□
Quick start guide	■	■
Product warranty	■	■
Product certificate card	■	■
CD	■	■
Plastic pad	■	■

1 System Capability

1.1 EN and ENC Capabilities (NVR units)

The maximum system capability that this product series supports is the following
4-IP 1080P with transmission rate 6mbps every channel @ 30 fps
8-IP 1080P with transmission rate 2mbps every channel @ 12 fps
16-IP 1080P with transmission rate 1.5mbps every channel @ 5 fps

Model	System setting max capability for 1080P Resolution
4-IP series	4-channel @ 1080P @ 30fps @ 6144 kbps
8-IP series	8-channel @ 1080P @ 12fps @ 2048 kbps
16-IP series	16-channel @ 1080P @ 5fps @ 1536 kbps

1.2 EH-RTHD Capabilities (Hybrid units)

The maximum system capability that this product series supports is the following
4 - CH D1 with transmission rate 1Mbps every channel @ 12fps
4 - IP 1080P with transmission rate 6Mbps every channel @ 12fps

8 - CH D1 with transmission rate 768kbps every channel @ 6fps
8 – IP 1080P with transmission rate 2Mbps every channel @ 6fps

16 - CH 1080P with transmission rate 384kbps every channel @ 3fps
16 - IP 1080P with transmission rate 1.5Mbps every channel @ 3fps

Model	System setting max capability for 1080P Resolution
4-ch series	4 - channel @ D1 @ 12fps @ 1024 kbps 4-IP @ 1080P @ 12fps @ 6144 kbps
8-ch series	8-channel @ D1 @ 6fps @ 768 kbps 8-IP @ 1080P @ 6fps @ 2048 kbps
16-ch series	16-channel @ 1080P @ 5fps @ 384 kbps 16-channel @ 1080P @ 5fps @ 1536 kbps

2   Features and Specifications

2.1 Overview

It is a high performance network video recorder. This series product support local preview, multiple-window display, recorded file local storage, remote control and mouse shortcut menu operation, and remote management and control function. All these functions support this series product to be used in various situations.

This series product supports centre storage, front-end storage and client-end storage. The monitor zone in the front-end can be set in anywhere. Working with other front-end devices such as IPC, NVS, this series product can establish a strong surveillance network via the CMS. In the network system, there is only one network cable from the monitor centre to the monitor zone in the whole network. There is no audio/video cable from the monitor centre to the monitor zone. The whole project is featuring of simple connection, low-cost, low maintenance work.

This series NVR can be widely used in many areas such as public security, water conservancy, transportation and education.

2.2 Features

User Management	• ·Each group has different management powers that can be edited freely. Every user belongs to an exclusive group.
Storage	• Via corresponding setup (such as alarm setup and schedule setup), you can backup related audio/video data in the network video recorder.
	• Support Web record and record local video and storage the file in the client end.
	• Respond to external alarm simultaneously (within 200MS), based on user's pre-defined relay setup, system can process the alarm input correctly and prompt user by screen and voice (support pre-recorded audio).
Alarm	• Support central alarm server setup, so that alarm information can remotely notify user automatically. Alarm input can be derived from various connected peripheral devices.
	• Alert you via EMAIL.
	• Through network, sending audio/video data compressed by IPC or NVS to client-ends, then the data will be decompressed and display. If bandwidth is big enough, latency is less than 500ms
Network Monitor	• Support max 10 connections
	• Transmit audio/video data by HTTP, TCP, UDP, MULTICAST, RTP/RTCP and etc.
	• Transmit some alarm data or alarm info by SMTP.
	• Support WEB access in WAN.
Window Split	• Adopt the video compression and digital process to show several windows in one monitor. Support 1/4/9/16-window display.
Record	• Support schedule record function. Save the recorded files in the HDD, client-end PC, or network storage server. You can search or playback the saved files at the local-end or via the Web.

Backup	• Support network backup, USB record backup function, the recorded files can be saved in network storage server, peripheral USB device, burner and etc.
Network Management	• Supervise NVR configuration and control power via Ethernet. • Support management via WEB.
Peripheral Equipment Management	• Support peripheral equipment management such as protocol setup and port connection. • Support transparent data transmission through RS232/RS485. • Support switch between NTSC and PAL.
Auxiliary	• Support real-time system resources information and running statistics display. • Support log file. • Local GUI output. Shortcut menu operation via mouse. • IR control function. Shortcut menu operation via remote control. • Support IPC or NVS remote video preview and control.

2.3 Specifications

Parameter	Specification	
	ENCSeries	**EN Series**
Operation System	Embedded Linux real-time operation system	
Operation Interface	WEB/Local GUI	
Video Compression	H.264/MPEG4	
Encode Capacity	For H.264, it max supports 16*D1, 8*720,4*1080P.	
Audio Compression	G.711a	
Video Output	1-channel VGA analog video output.	
Video Input	4/8/16-ch network compression digital video input	
HDMI	1-ch HDMI output.	
Audio Input	N/A	1-ch bidirectional audio input
Audio Output	N/A	1-channel bidirectional talk output.
Window Split	4/9/16-window	
Multiple-channel Playback	Max 16-channel playback.	
Alarm Input	4/8/16-ch alarm input.	
Alarm Output	3-ch alarm output	6-ch alarm output

	Relay output. Relay （DC 30V 1A，AC 125V 0.5A（Activation output）） Including one controllable DC +12V output.	
Storage	2 built-in SATA port s	8 built-in SATA ports
	N/A	1 peripheral eSATA port
RS232 Port	One RS232 port to debug transparent COM data.	
RS485 port	One RS485 port to control PTZ. Support various protocols.	
USB Port	2 peripheral USB ports.	4 peripheral USB port.
Network Connection	One RJ45 10/100M/1000M self-adaptive Ethernet port.	
Power Port	One power port, power adapter. Input DC 12V.	One power port, AC100～240V 50+2% Hz.
Power Button	One power button in the rear panel.	
Power Button	One power button in the front panel.	
IR Remote Control Receiver	N/A	One IR remote control receiver in the front panel.
Clock	Built-in clock.	
Indication Light	16 record status indication lights One power status indication light. One alarm status indication light. One network status indication light. One HDD status indication light.	16 record status indication lights One system running status indication light. One remote control indication light.
Power Consumption	＜12W(Exclude HDD)	＜40W(Exclude HDD)
Working Temperature	0℃～+50℃	
Working Humidity	10%－90%	
Air pressure	86kpa－106kpa	
Dimension	440mm*300mm*42.6mm	440mm*460mm*89mm
Weight	1.5～2.5 KG（Exclude HDD）	5.5～6.5KG（Exclude HDD）
Installation	Desk installation/Rack installation	

3 Front Panel and Rear Panel

3.1 Front Panel

3.1.1 ENC 2bay series

The -1U series NVR front panel is shown as below. See Figure 3-1.

Figure 3-1

Please refer to the following sheet for detail information Figure 3-3.

3.1.2 ENC 4bay Series

The -1U series NVR front panel is shown as below. See Figure 3-1.

Figure 3-2

Please refer to the following sheet for detail information Figure 3-3.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color.
		Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor.
		In motion detection setup, working with Fn and direction keys to realize setup.
		In text mode, click it to switch between numeral, English character(small/capitalized) and etc.
		In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt)
System Power		System power up status
IR Receiver		It is to receive the signal from the remote control.
HDD abnormity indicator		The red light is for the HDD abnormity
Alarm Status		when alarm is triggered color will change to blue
Network abnormity indicator		The red light is for the network abnormity
USB port		To connect USB storage device, USB mouse.
Drive Bays		HDD bays with locks

Figure 3-3

3.1.3 EN Series

The EN series front panel is shown as in Figure 3-4.

Figure 3-4

Please refer to the following sheet for detail information.

Name	Icon	Function
Power button	⏻	Power button, press this button for three seconds to boot up or shut down NVR.
Number button	0-9	Input Arabic number Switch channel
Input number more than 10	-/--	If you want to input a number more than 10, please click this button and then input.
Shift	↑	In textbox, click this button to switch between numeral, English(Small/Capitalized),donation and etc.
		Enable or disable tour.
Up/ Down	▲、▼	Activate current control, modify setup, and then move up and down.
		Increase/decrease numeral.
		Assistant function such as PTZ menu.
Left/ Right	◄　►	Shift current activated control, and then move left and right.
		When playback, click these buttons to control playback bar.
ESC	ESC	Go to previous menu, or cancel current operation.
		When playback, click it to restore real-time monitor mode.
Enter	ENTER	Confirm current operation
		Go to default button
		Go to menu
Record	REC	Manually stop/start recording, working with direction keys or numeral keys to select the recording channel.
Assistant	Fn	One-window monitor mode, click this button to display assistant function: PTZ control and image color.
		Backspace function: in numeral control or text control, press it for 1.5seconds to delete the previous character before the cursor.
		In motion detection setup, working with Fn and direction keys to realize setup.

		In text mode, click it to switch between numeral, English character(small/capitalized) and etc.
		In HDD management interface, you can click it to switch HDD record information and other information (Menu prompt)
		Realize other special functions.
Fast play	▶▶	Various fast speeds and normal playback.
Slow play	▶▸	Multiple slow play speeds or normal playback.
Play previous	◀		In playback mode, playback the previous video
Play Next	▶		In playback mode, playback the next video In menu setup, go to down ward of the dropdown list
Reverse/Pause	‖ ◀	In normal playback or pause mode, click this button to reverse playback In reverse playback, click this button to pause playback.
Play/Pause	▶ ‖	In normal playback click this button to pause playback In pause mode, click this button to resume playback.
Window switch	**Mult**	Click it to switch one-window/multiple-window.
Shuttle(outer ring)	◯	In real-time monitor mode it works as left/right direction key. Playback mode, counter clockwise to forward and clock wise to backward.
Jog(inner dial)	◯	Up/down direction key. Playback mode, turn the inner dial to realized frame by frame playback. (Only applies to some special versions.)
USB port	⇌	To connect USB storage device, USB mouse.
Remote control indication light	ACT	Remote control indication light
Status indication light	Status	If there is Fn indication light, current status indication light is null.
Power indication light	PWR	Power indication light
Record light	1-16	For 4/8/16 ch series ,it becomes on when system is recording.
IR Receiver	IR	It is to receive the signal from the remote control.

3.2 Rear Panel

3.2.1   ENC 2bay Series

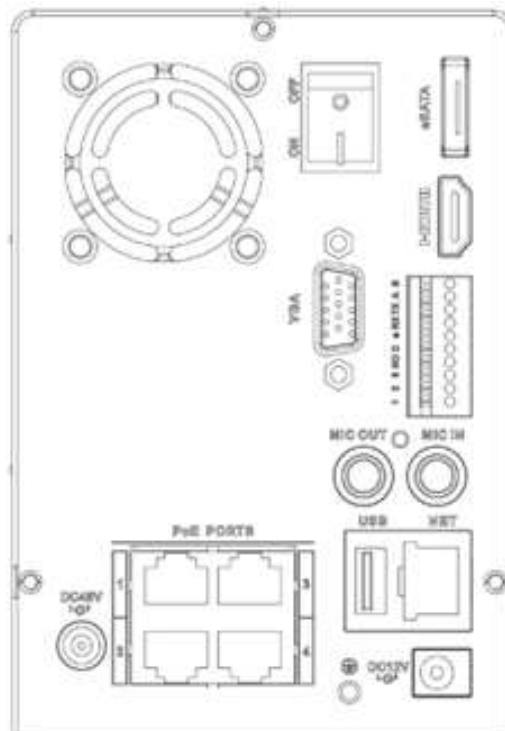The ENC 2bay seriesreal panel is shown as in Figure 3-5.

Figure 3-5

3.2.2   ENC 4bay Series

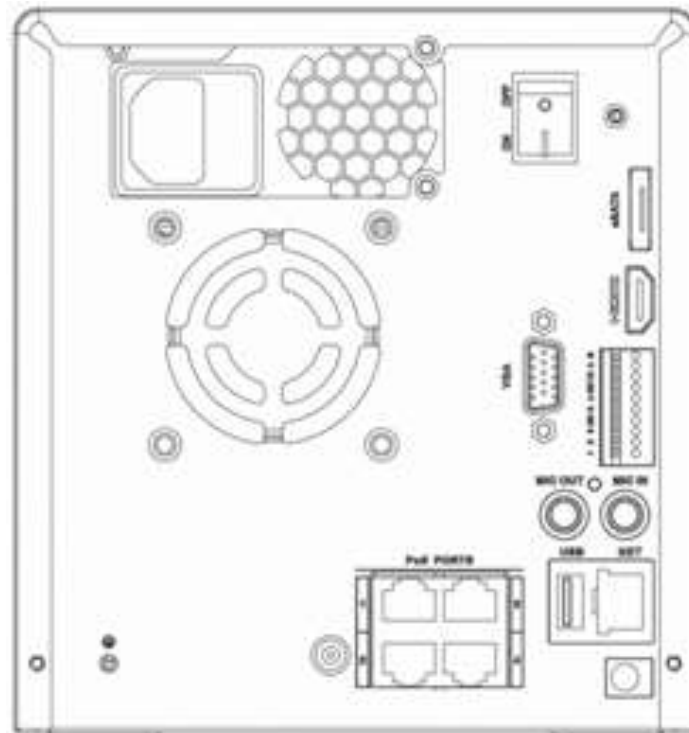The ENC 4bay series is shown as in Figure 3-6.

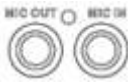

Figure 3-6

Please refer to the following sheet for detailed information.

Port Name		Connection	Function
⟳ USB symbol	USB port.		Connect to USB mouse.
Network symbol	Network port		10M/100M self-adaptive Ethernet port. Connect to the network cable.
eSATA	eSATA port		The external SATA port. It can be connected to the peripheral devices of SATA port.
RS232	232 debug COM.	RS232	It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High Definition Multimedia Interface	HDMI	High definition video signal output port. Transmit the clear video and multiple-track data (Uncompressed)to the device of HDMI(High definition media interface)
VGA	VGA video output port	VGA	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.
1~3	Alarm input port. 1~3	I/O port	They are to receive the signal from the external alarm source. When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚ Ground symbol	Ground end		Ground
NO~C	alarm output port. Relay out		Port NO~C Output alarm signal to the alarm device. Please make sure there is power to the external alarm device.
Tx Rx	Programming Port		Programming Port
A+	RS485 communication port		RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B-			RS485_B.It is the cable B. You can connect to the control devices such as speed dome PTZ.
Power symbol	Power port	48 volts	POE power supply
DC 12V	Power port	12 volts	System Power supply
Power button	ON OFF switch image		Power on/off button.
Bi-directional talk	MIC OUT / MIC IN image		Bi-directional talk
POE port	POE ports image		4 Port POE switch
Basic Network port	port image		Network port

3.2.3 EN Series

The 2U series rear panel is shown as below. See Figure 3-7.

Figure 3-7

Please refer to the following sheet for detailed information.

Port Name		Connection	Function
Power button			Power on/off button.
Power input port			Input AC 120-220
MIC OUT	Audio output port	RCA	Audio output port. Output analog audio signal to the devices such as sound box.
MIC IN	Audio input port	RCA	Bidirectional talk input port. Receive the analog signal from the devices such as speaker or pickup.
1～16	Alarm input port. 1～16	I/O port	● Four groups of alarm input ports. The first group is from port 1 to port 4, the second group is from port 5 to port 8, the third group is from 9 to 12, and the fourth group is from 13 to 16. They are to receive the signal from the external alarm source. There are two types; NO (normal open)/NC (normal close). ● When your alarm input device is using external power, please make sure the device and the NVR have the same ground.
⏚	Ground end		Alarm input ground end.
NO1～NO5 C1～C5 NC5	Alarm output port 1～5		5 groups of alarm output ports. (Group 1：port NO1～C1,Group 2:port NO2～C2,Group 3:port NO3～C3.group 4: port　NO4～C4、Group 5：port NO5、C5、NC5).Output alarm signal to the alarm device. Please make sure there is power to the external alarm device. NO：Normal open alarm output port. C：Alarm output public end. NC: Normal close alarm output port.
A	RS485 port		RS485_A port. It is the cable A. You can connect to the control devices such as speed dome PTZ.
B			RS485_B.It is the cable B. You can connect to the

Port Name		Connection	Function
			control devices such as speed dome PTZ.
CTRL 12V			Controllable 12V power output. It is to control the on-off relay output. You can use it to enable device alarm function.
			It can also be used as the power input for some alarm devices such as the smoke detector.
+12V			+12V power output port. It is to provide the power to the peripheral devices such as camera or alarm device. The connected device current shall be less than 1A.
⊞	Network port		10M/100M self-adaptive Ethernet port. Connect to the network cable.
eSATA	eSATA port		The external SATA port. It can be connected to the peripheral devices of SATA port.
			Please pay attention to the HDD jumper when you connect the external HDD.
⊷	USB port.		Connect to USB mouse.
RS232	232 debug COM.		It is for general COM debug to configure IP address or transfer transparent COM data.
HDMI	High definition multimedia interface		High definition video signal output port.
			Transmit the clear video and multiple-track data (Uncompressed)to the device of HDMI(High definition media interface)
VGA	VGA video output port	VGA	VGA video output port. Output analog video signal. It can connect to the monitor to view analog video.

3.3 Bidirectional talk

3.3.1 Device-end to PC-end

Device Connection

Please connect the speaker or the pickup to the first audio input port in the device rear panel. Then connect the earphone or the sound box to the audio output port in the PC.

Login the Web and then enable the corresponding channel real-time monitor.

Please refer to the following interface to enable bidirectional talk.

Figure 3-8

Listening Operation

At the device end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the pc-end.

3.3.2 PC-end to the device-end

Device Connection

Connect the speaker or the pickup to the audio output port in the PC and then connect the earphone or the sound box to the first audio input port in the device rear panel.

Login the Web and then enable the corresponding channel real-time monitor.

Please refer to the above interface (Figure 3-8) to enable bidirectional talk.

Listening Operation

At the PC-end, speak via the speaker or the pickup, and then you can get the audio from the earphone or sound box at the device-end.

3.4 Mouse Operation

Please refer to the following sheet for mouse operation instruction.

Left click mouse	When you have selected one menu item, left click mouse to view menu content.
	Modify checkbox or motion detection status.
	Click combo box to pop up dropdown list
	In input box, you can select input methods. Left click the corresponding button on the panel you can input numeral/English character (small/capitalized). Here ← stands for backspace button. ⎵ stands for space button. When input special sign, you can click corresponding numeral in the front panel to input. For example, click numeral 1 you can input"/" , or you can click the numeral in the on-screen keyboard directly.
Double left click mouse	Implement special control operation such as double click one item in the file list to playback the video.
	In multiple-window mode, double left click one channel to view in full-window. Double left click current video again to go back to previous multiple-window mode.
Right click mouse	In real-time monitor mode, pops up shortcut menu.
	Exit current menu without saving the modification.
Press middle button	In numeral input box: Increase or decrease numeral value.
	Switch the items in the check box.
	Page up or page down
Move mouse	Select current control or move control
Drag mouse	Select motion detection zone
	Select privacy mask zone.

3.5 Remote Control (Dependent on the unit)

The remote control interface is shown as in Figure 3.9.

Please note remote control is not our standard accessory and it is not included in the accessory bag.
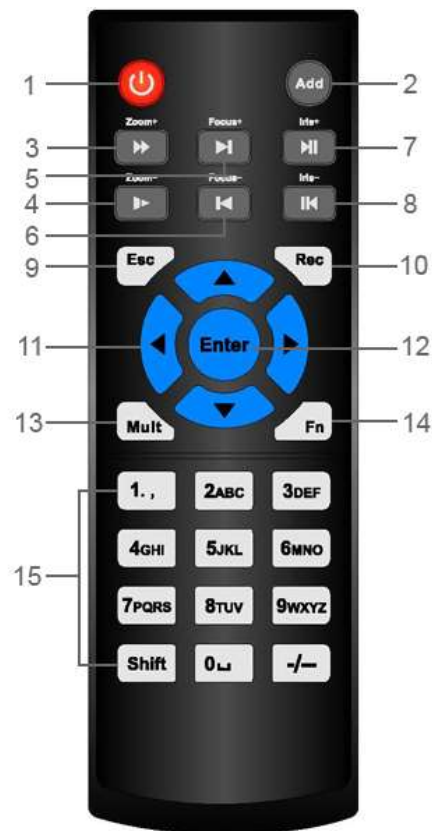
Figure 3-9

Please refer to the following sheet for detailed information.

Serial Number	Name	Function
1	Power button	Click it to boot up or shut down the device.
2	Address	Click it to input device number, so that you can control it.
3	Forward	Various forward speeds and normal speed playback.
4	Slow play	Multiple slow play speeds or normal playback.
5	Next record	In playback mode, playback the next video.
6	Previous record	In playback mode, playback the previous video.
7	Play/Pause	In pause mode, click this button to realize normal playback.
		In normal playback click this button to pause playback.
		In real-time monitor mode, click this button to enter video search menu.
	Reverse/pause	Reverse playback pause mode, click this button to realize

8		normal playback.
		In reverse playback click this button to pause playback.
9	Cancel	Go back to previous menu or cancel current operation (close upper interface or control)
10	Record	Start or stop record manually In record interface, working with the direction buttons to select the record channel. Click this button for at least 1.5 seconds, system can go to the Manual Record interface.
11	Direction keys	Switch current activated control, go to left or right. In playback mode, it is to control the playback process bar. Aux function(such as switch the PTZ menu)
12	Confirm /menu key	go to default button go to the menu
13	Multiple-window switch	Switch between multiple-window and one-window.
14	Auxiliary key	In 1-ch monitor mode: pop up assistant function：PTZ control and Video color.
		Switch the PTZ control menu in PTZ control interface.
		In motion detection interface, working with direction keys to complete setup.
15	0-9 number key	Input password, channel or switch channel.
		Shift is the button to switch the input method.

Figure 3-1

4 HDD Installation

For the first time install, please be aware that whether the HDDs have been installed.
Strongly recommended to use the HDDs which we suggest you to use (high speed HDD that above 7200 rounds), we do not suggest you to use PC specified HDD.

4.1 ENC Series

Pleas follow the steps listed below to install the HDD.

① Remove the drive bay   ②Fix the four screws on the   ③Place the Drive bay back

4.2 EN Series

① Unscrew the screws on the rear panel and cover the upper cover.

② Place the HDDs on the HDD bracket and fix the HDD on the bracket with four screws.

③ Use data cable to connect main board and HDD port, then connect the power (the other end) cable to the HDD port.
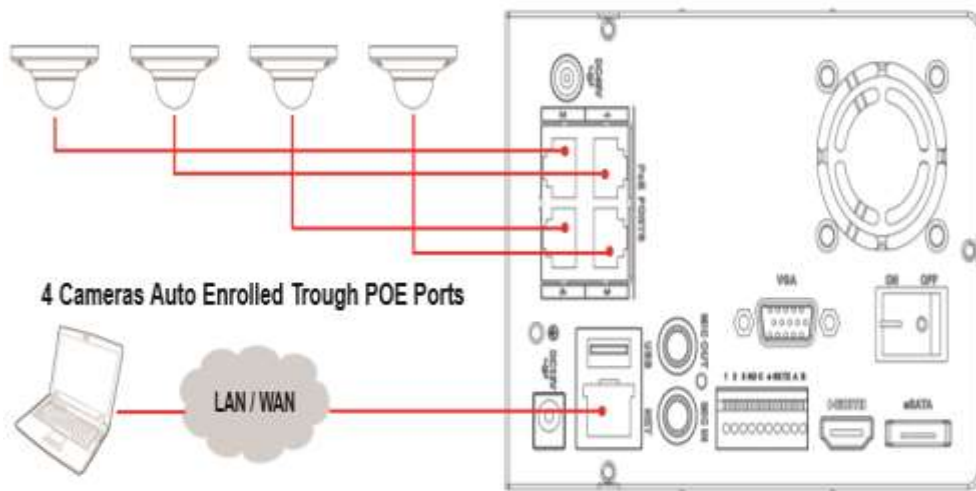
④　After wires are connected, place the upper cover on the device and twist the screws on the rear panel.

Important

Before you replace the HDD, please make sure you have shut down the device and unplug the power cable!

5 Network Connection

ENC Series Connection

4 Cameras Auto Enrolled Trough POE Ports

EN Series Connection

Cameras connected to the External POE switch has to be set with a computer.
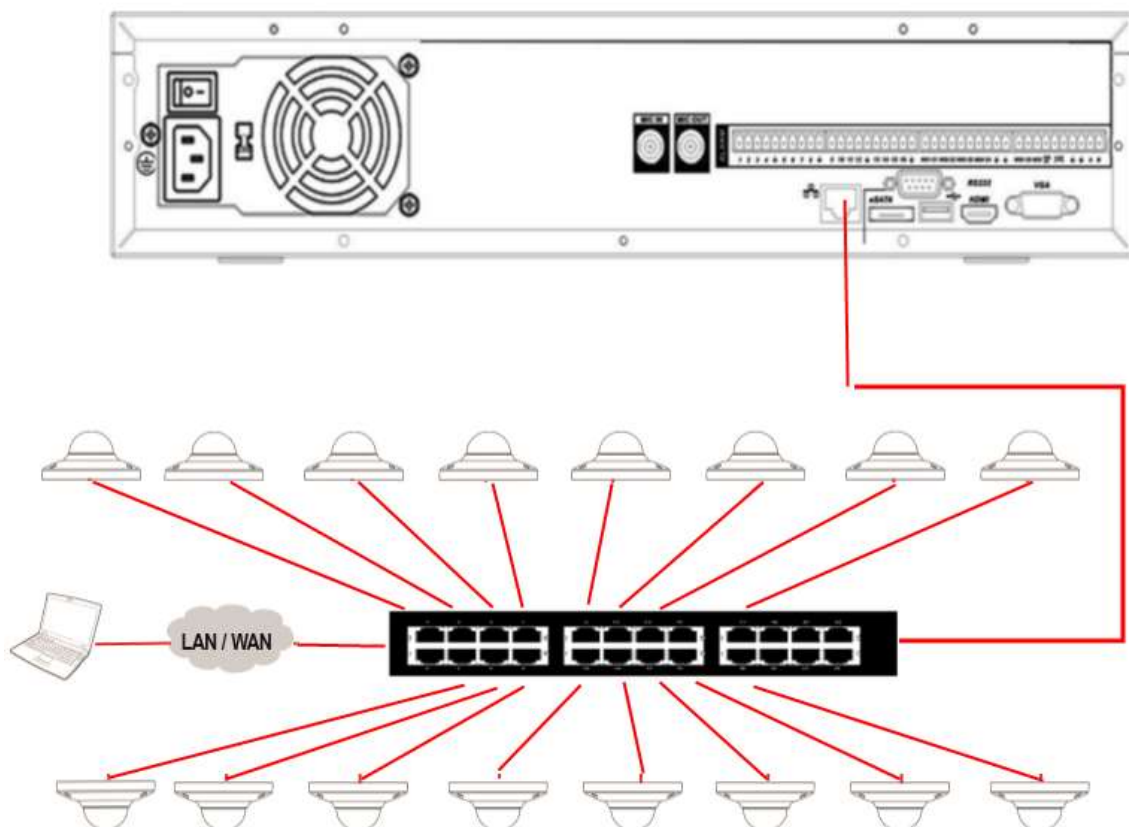

Figure 5-1

6   FAQ

1.   Device can not boot up properly.

There are following possibilities:

- Input power is not correct.
- Power connection is not correct.
- Power switch button is damaged.
- Program upgrade is wrong.
- HDD malfunction or something wrong with HDD ribbon.
- Seagate DB35.1，DB35.2，SV35 or Maxtor 17-g has compatibility problem. Please upgrade to the latest version to solve this problem.
- Front panel error.
- Main board is damaged.

2.   Device often automatically shuts down or stops running.

There are following possibilities:

- Input voltage is not stable or it is too low.
- HDD malfunction or something wrong wit the ribbon.
- Button power is not enough.
- Front video signal is not stable.
- Working environment is too harsh, too much dust.
- Hardware malfunction.

3.   System can not detect hard disk.

There are following possibilities:

- HDD is broken.
- HDD ribbon is damaged.
- HDD cable connection is loose.
- Main board SATA port is broken.

4. There is no video output whether it is one-channel, multiple-channel or all-channel output.

There are following possibilities:

- Program is not compatible. Please upgrade to the latest version.
- Brightness is 0. Please restore factory default setup.
- There is no video input signal or it is too weak.
- Check privacy mask setup or your screen saver.
- Device hardware malfunctions.

5. Real-time video color is distorted.

There are following possibilities:

- When using BNC output, NTSC and PAL setup is not correct. The real-time video becomes black and white.
- Device and monitor resistance is not compatible.
- Video transmission is too long or degrading is too huge.
- Device color or brightness setup is not correct.

6. Can not search local records.

There are following possibilities:

- HDD ribbon is damaged.
- HDD is broken.
- Upgraded program is not compatible.
- The recorded file has been overwritten.
- Record function has been disabled.

7. Video is distorted when searching local records.

There are following possibilities:

- Video quality setup is too low.
- Program read error, bit data is too small. There is mosaic in the full screen. Please restart the device to solve this problem.
- HDD data ribbon error.
- HDD malfunction.
- Device hardware malfunctions.

8. There is no audio when monitor.

There are following possibilities:

- It is not a power picker.
- It is not a power acoustics.
- Audio cable is damaged.
- Device hardware malfunctions.

9. There is audio when monitor but there is no audio when system playback.

There are following possibilities:

- Setup is not correct. Please enable audio function
- Corresponding channel has no video input. Playback is not continuous when the screen is blue.

10. Time display is not correct.

There are following possibilities:

- Setup is not correct
- Battery contact is not correct or voltage is too low.
- Crystal is broken.

11. Device can not control PTZ.

There are following possibilities:

- Front panel PTZ error
- PTZ decoder setup, connection or installation is not correct.
- Cable connection is not correct.
- PTZ setup is not correct.
- PTZ decoder and device protocol is not compatible.
- PTZ decoder and device address is not compatible.

- When there are several decoders, please add 120 Ohm between the PTZ decoder A/B cables furthest end to delete the reverberation or impedance matching. Otherwise the PTZ control is not stable.
- The distance is too far.

12. Motion detection function does not work.

There are following possibilities:
- Period setup is not correct.
- Motion detection zone setup is not correct.
- Sensitivity is too low.
- For some versions, there is hardware limit.

13. Can not log in client-end or web.

There are following possibilities:
- For Windows 98 or Windows ME user, please update your system to Windows 2000 sp4. Or you can install client-end software of lower version. Please note right now, our device is not compatible with Windows VISTA control.
- ActiveX control has been disabled.
- No dx8.1 or higher. Please upgrade display card driver.
- Network connection error.
- Network setup error.
- Password or user name is invalid.
- Client-end is not compatible with device program.

14. There is only mosaic no video when preview or playback video file remotely.

There are following possibilities:
- Network fluency is not good.
- Client-end resources are limit.
- There is multiple-cast group setup in device. This mode can result in mosaic. Usually we do not recommend this mode.
- There is privacy mask or channel protection setup.
- Current user has no right to monitor.
- Device local video output quality is not good.

15. Network connection is not stable.

There are following possibilities:
- Network is not stable.
- IP address conflict.
- MAC address conflict.
- PC or device network card is not good.

16. Burn error /USB back error.

There are following possibilities:
- Burner and device are in the same data cable.
- System uses too much CPU resources. Please stop record first and then begin backup.

- Data amount exceeds backup device capacity. It may result in burner error.
- Backup device is not compatible.
- Backup device is damaged.

17. Keyboard can not control device.

There are following possibilities:

- Device serial port setup is not correct
- Address is not correct
- When there are several switchers, power supply is not enough.
- Transmission distance is too far.

18. Alarm signal can not been disarmed.

There are following possibilities:

- Alarm setup is not correct.
- Alarm output has been open manually.
- Input device error or connection is not correct.
- Some program versions may have this problem. Please upgrade your system.

19. Alarm function is null.

There are following possibilities:

- Alarm setup is not correct.
- Alarm cable connection is not correct.
- Alarm input signal is not correct.
- There are two loops connect to one alarm device.

20. Remote control does not work.

There are following possibilities:

- Remote control address is not correct.
- Distance is too far or control angle is too small.
- Remote control battery power is low.
- Remote control is damaged or device front panel is damaged.

21. Record storage period is not enough.

There are following possibilities:

- Camera quality is too low. Lens is dirty. Camera is installed against the light. Camera aperture setup is not correct.
- HDD capacity is not enough.
- HDD is damaged.

22. Can not playback the downloaded file.

There are following possibilities:

- There is no media player.
- No DXB8.1 or higher graphic acceleration software.
- There is no DivX503Bundle.exe control when you play the file transformed to AVI via media player.

- No DivX503Bundle.exe or ffdshow-2004 1012 .exe in Windows XP OS.

23. I forgot local menu operation password or network password

Please contact your local service engineer or our sales engineer for help. We can guide you to solve this problem.

24. There is no video. The screen is in black.

There are following possibilities:
- IPC IP address is not right.
- IPC port number is not right.
- IPC account (user name/password) is not right.

25. The displayed video is not complete.

Please cheek current resolution setup. If the current setup is 1920*1080, then you need to set the monitor resolution as 1920*1080.

26. There is no HDMI output.

There are following possibilities:
- Displayer is not in HDMI mode.
- HDMI cable connection is not right.

27. The video is not fluent when I view in multiple-channel mode from the client-end.

There are following possibilities:
- The network bandwidth is not sufficient. The multiple-channel monitor operation needs at least 100M or higher.
- Your PC resources are not sufficient. For 16-ch remote monitor operation, the PC shall have the following environment: Quad   Core, 2G or higher memory, independent displayer, display card memory 256M or higher.

Daily Maintenance

- Please use the brush to clean the board, socket connector and the chassis regularly.
- The device shall be soundly earthed in case there is audio/video disturbance. Keep the device away from the static voltage or induced 143H143Hvoltage.
- Please unplug the power cable when you remove the audio/video signal cable, RS232 or RS485 cable.
- Always shut down the device properly. Please press the power button in the front pane for at least three seconds to shut down the device. Otherwise it may result in HDD malfunction.
- Please make sure the device is away from the direct sunlight or other heating sources. Please keep the sound ventilation.
- Please check and maintain the device regularly.

7   Appendix A HDD Capacity Calculation

Calculate total capacity needed by each device according to video recording (video recording type and video file storage time).

Step 1: According to Formula (1) to calculate storage capacity q_i that is the capacity of each channel needed for each hour, unit Mbyte.

$$q_i = d_i \div 8 \times 3600 \div 1024 \tag{1}$$

In the formula: d_i means the bit rate, unit Kbit/s

Step 2: After video time requirement is confirmed, according to Formula (2) to calculate the storage capacity m_i, which is storage of each channel needed unit Mbyte.

$$m_i = q_i \times h_i \times D_i \tag{2}$$

In the formula:

h_i means the recording time for each day (hour)

D_i means number of days for which the video shall be kept

Step 3: According to Formula (3) to calculate total capacity (accumulation) q_T that is needed for all channels in the device during **scheduled video recording**.

$$q_T = \sum_{i=1}^{c} m_i \tag{3}$$

In the formula: c means total number of channels in one device

Step 4: According to Formula (4) to calculate total capacity (accumulation) q_T that is needed for all channels in device during **alarm video recording (including motion detection)**.

$$q_T = \sum_{i=1}^{c} m_i \times a\% \tag{4}$$

In the formula：$a\%$ means alarm occurrence rate

8 Appendix B Compatible SATA HDD

Manufacturer	Series	Model	Capacity	Port Mode
Seagate	Barracuda.10	ST3750640AS	750G	SATA
Seagate	Barracuda.10	ST3500630AS	500G	SATA
Seagate	Barracuda.10	ST3400620AS	400G	SATA
Seagate	Barracuda.10	ST3320620AS	320G	SATA
Seagate	Barracuda.10	ST3250620AS	250G	SATA
Seagate	Barracuda.10	ST3250820AS	250G	SATA
Seagate	Barracuda.10	ST3160815AS	160G	SATA
Seagate	Barracuda.10	ST380815AS	80G	SATA
Seagate	Barracuda.9	ST3160811AS	160G	SATA
Seagate	Barracuda.9	ST3120811AS	120G	SATA
Seagate	Barracuda.9	ST380811AS	80G	SATA
Seagate	Barracuda.9	ST380211AS	80G	SATA
Seagate	Barracuda.11	ST3750330AS	750G	SATA
Seagate	Barracuda.11	ST3500320AS	500G	SATA
Maxtor	DiamondMax 20	STM3320820AS	320G	SATA
Maxtor	DiamondMax 20	STM3250820AS	250G	SATA
Maxtor	DiamondMax 21	STM3160211AS	160G	SATA
Maxtor	DiamondMax 21	STM380211AS	80G	SATA
Maxtor	DiamondMax 21	STM340211AS	40G	SATA
Westem Digital	Cariar SE	WD3200JD	320G	SATA
Westem Digital	Cariar SE	WD3000JD	300G	SATA
Westem Digital	Cariar SE	WD2500JS	250G	SATA
Westem Digital	Cariar SE	WD2000JD	200G	SATA
Westem Digital	Cariar SE	WD1600JD	160G	SATA
Westem Digital	Cariar SE	WD1600JS	160G	SATA
Westem Digital	Cariar SE	WD1200JS	120G	SATA
Westem Digital	Cariar SE	WD800JD	80G	SATA
Westem Digital	Cariar	WD1600AABS	160G	SATA

Westem Digital	Cariar	WD800BD	80G	SATA
Westem Digital	Cariar SE16	WD7500KS	750G	SATA
Westem Digital	Cariar SE16	WD5000KS	500G	SATA
Westem Digital	Cariar SE16	WD4000KD	400G	SATA
Westem Digital	Cariar SE16	WD3200KS	320G	SATA
Westem Digital	Cariar SE16	WD2500KS	250G	SATA

9   Appendix C Compatible USB List

Manufacturer	Model	Capacity
Sandisk	Cruzer Micro	512M
Sandisk	Cruzer Micro	1G
Sandisk	Cruzer Micro	2G
Sandisk	Cruzer Freedom	256M
Sandisk	Cruzer Freedom	512M
Sandisk	Cruzer Fredom	1G
Sandisk	Cruzer Freedom	2G
Kingston	Data Traveler II	1G
Kingston	Data Traveler II	2G
Kingston	Data Traveler	1G
Kingston	Data Traveler	2G
Maxell	USB Flash Stick	128M
Maxell	USB Flash Stick	256M
Maxell	USB Flash Stick	512M
Maxell	USB Flash Stick	1G
Maxell	USB Flash Stick	2G
Kingax	Super Stick	128M
Kingax	Super Stick	256M
Kingax	Super Stick	512M
Kingax	Super Stick	1G
Kingax	Super Stick	2G
Netac	U210	128M
Netac	U210	256M
Netac	U210	512M
Netac	U210	1G
Netac	U210	2G
Teclast	Ti Cool	128M
Teclast	Ti Cool	256M

Teclast	Ti Cool	512M
Teclast	Ti Cool	1G
Teclast	Ti Cool	2G

10 Appendix D Compatible Displayer List

Brand	Model	Dimension (Unit: inch)
BENQ（LCD）	ET-0007-TA	19-inch (wide screen)
DELL（LCD）	E178FPc	17-inch
BENQ（LCD）	Q7T4	17-inch
BENQ（LCD）	Q7T3	17-inch
LENOVO（LCD）	LXB-L17C	17-inch
SANGSUNG（LCD）	225BW	22-inch (wide screen)
LENOVO(CRT)	LXB-FD17069HB	17-inch
LENOVO(CRT)	LXB-HF769A	17-inch
LENOVO(CRT)	LX-GJ556D	17-inch
Samsung (LCD)	2494HS	24-inch
Samsung (LCD)	P2350	23-inch
Samsung (LCD)	P2250	22-inch
Samsung (LCD)	P2370G	23-inch
Samsung (LCD)	2043	20-inch
Samsung (LCD)	2243EW	22-inch
LG（LCD）	W1942SP	19-inch
LG（LCD）	W2243S	22-inch
LG（LCD）	W2343T	23-inch
BENQ（LCD）	G900HD	18.5-inch
BENQ（LCD）	G2220HD	22-inch
PHILIPS（LCD）	230E	23-inch
PHILIPS（LCD）	220CW9	23-inch
PHILIPS（LCD）	220BW9	24-inch
PHILIPS（LCD）	220EW9	25-inch

11   Appendix E No-IP DDNS

Please double click DDNS to go to the configuration interface. You can see an interface is shown as in

Figure 11-1.

Figure 11-1

- DDNS Type: You can select from the dropdown list.

  DVRID.com, No-IP and DynDNS.

- Server IP: Server IP of the DDNS type

- Port: default port is 80 for dvrid.com.

- Domain Name: Domain name created with DDNS service provider.

- User: User name from your DDNS service provider.

- Password: User name from the DDNS service provider.

Highlight the icon ☐ in front of Enable to enable the DDNS server configuration.

It's a system of dynamic DNS service. If you do not have a Static IP address on the Internet, you need

to have a dynamic IP. It is to say your IP address changes after a certain period of time.

You can follow the steps listed below to display image on your device even your IP is dynamic.

You need to use a DDNS service and create a domain name that is not necessarily direct use the IP

address.

After completed configuration in the device DDNS service can constantly inform the latest device's

connection IP, and modify its IP on the table of data from the server. Then we have a constant domain name in the Web browser, along with the HTTP port, send a request to identify the car IP of the domain name typed. The server will direct the domain name to the IP connection, thus allowing access to the device which does not have a fixed IP in the network.

Note: It is important to note that to gain access to the device in a local network, it is necessary to achieve the redirect the port of your modem or router to your device.

To receive domain name in the DVRID.com DDNS service, please follow the steps listed below.

1. Please visit www.dvrid.com; the page for DVRID appears as below. See Figure 11-2.

Figure 11-2

2. Left click mouse on the "Register" button, account Information interface is shown as in Figure 11-3.
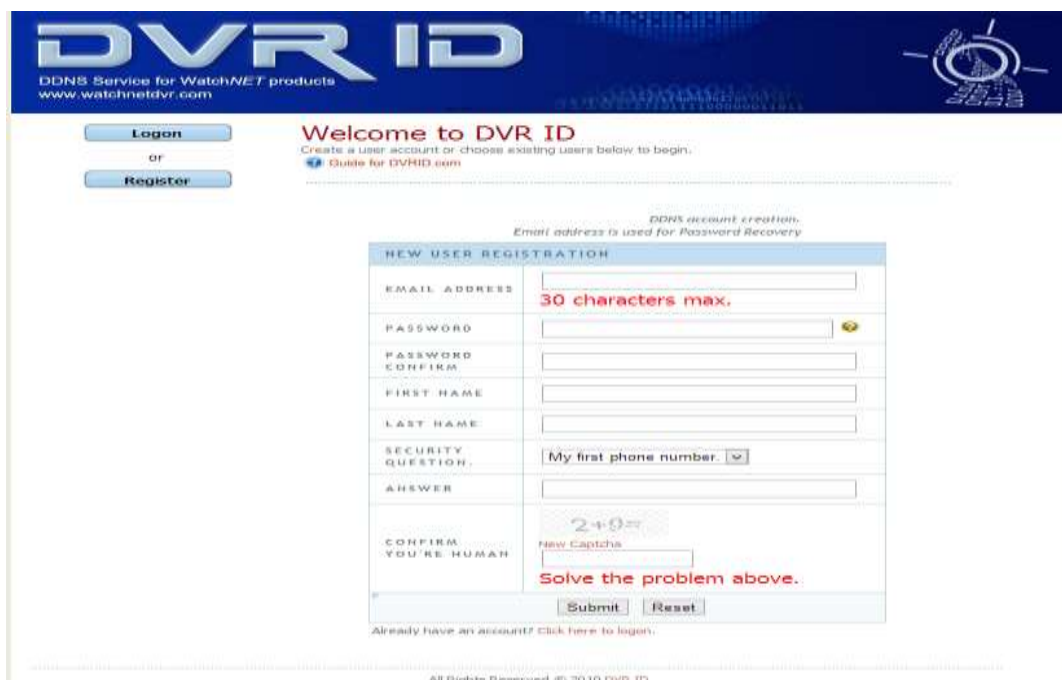
Figure 11-3

3. Fill in the requested fields and answer the Captcha then click Submit button.

4. Now you can see an interface is shown as in Figure 11-4. You have successfully created an account.

Figure 11-4

5. In Figure 11-4, Create a URL or domain name. the first field is for the domain and the next field is for the system serial no.

6. In Figure 11-5, input corresponding host name in the filed. You can use this name to access device from an external network. In the field to the right of the name, select the desired area. This is your domain name for access to the device. Click "Create additional domain names" button at the bottom of the page.

Figure 11-5

7. Please go to the device and access the MAIN MENU> SETTING> NETWORK> DDNS. Input

server IP you get in the above step. Select the DDNS Type as DVRID and highlight the icon ☐ in

front of Enable to enable the DDNS function. Now fill the fields as described below, and click OK to

save current setup.

• **Server IP:** DVRID.com

• **Port:** Enter the port 80.

• **Domain Name:** Enter the domain name created in step 4.

• **User:** Enter your username (email address) created in step 2.

• **Password:** Enter the password created in step 2.

The figure Configuration file of No-IP is shown as in Figure 11-6.

Figure 11-6

8. Now you have completed device setup. Open Internet Explorer ® in another foreign network with Internet access, unlike the network where the device is connected to, you need to follow the steps listed below:

1. Enter the address into your browser: http://URLor domain name the field created in step 8. For example: http://manuel.dvrid.com

2. If the device HTTP port is 80, just type the domain name. Otherwise, enter in the browser address as: http://nome the field created in Step 8: port number of HTTP. For example: http://myhome.dvrid.com:82

3. Press Enter. The system will ask install application webrec.cab control or not. Please click Yes to perform a successful connection.

Appendix H Toxic or Hazardous Materials or Elements

Component Name	Toxic or Hazardous Materials or Elements					
	Pb	Hg	Cd	Cr VI	PBB	PBDE
Sheet Metal(Case)	○	○	○	○	○	○
Plastic Parts （Panel）	○	○	○	○	○	○
Circuit Board	○	○	○	○	○	○
Fastener	○	○	○	○	○	○
Wire and Cable/Ac Adapter	○	○	○	○	○	○
Packing Material	○	○	○	○	○	○
Accessories	○	○	○	○	○	○

Note

O: Indicates that the concentration of the hazardous substance in all homogeneous materials in the parts is below the relevant threshold of the SJ/T11363-2006 standard.

X: Indicates that the concentration of the hazardous substance of at least one of all homogeneous materials in the parts is above the relevant threshold of the SJ/T11363-2006 standard. During the environmental-friendly use period (EFUP) period, the toxic or hazardous substance or elements contained in products will not leak or mutate so that the use of these (substances or elements) will not result in any severe environmental pollution, any bodily injury or damage to any assets. The consumer is not authorized to process such kind of substances or elements, please return to the corresponding local authorities to process according to your local government statutes

Note

- **This manual is for reference only. Slight difference may be found in the user interface.**
- **All the designs and software here are subject to change without prior written notice.**
- **Please visit our website or contact your local service engineer for more information.**